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#### INTELLIGENCE BRIEF

SOVIET MIG-21 FACTORIES IN INDIA: PROGRESS AND PROSPECTS

# DIRECTORATE OF INTELLIGENCE Office of Research and Reports

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# SOVIET MIG-21 FACTORIES IN INDIA: PROGRESS AND PROSPECTS

The USSR and India appear to have concluded preliminary negotiations for active Soviet participation in the Indian production program for supersonic fighters. On 25 April 1965 an Indian delegation left for Moscow to sign detailed agreements for the development of a MIG-21 complex. This installation -- to be built in India with the maximum possible use of Indian material -- will consist of three plants: an airframe factory at Nasik, an engine factory at Koraput, and an electronics factory at Hyderabad. The Indians plan to begin assembling MIG's by 1970, using parts manufactured in these plants -- a time schedule that appears to be overly optimistic.

Negotiations for the MIG factories have been drawn out. Discussions began in the spring of 1962 and a formal agreement was reached in September 1964. Nevertheless, implementation of the agreement has been delayed, possibly because of uncertainties following the ouster of Khrushchev and because of Indian dissatisfaction with the Soviet estimated cost of the MIG complex.

Final agreement as to the type of aircraft to be produced may not yet have been reached. The Indian Air Force, dissatisfied with the limited capabilities of the 12 MIG's that they had previously purchased from the USSR, urged that the all-weather version of the MIG-21 -- the Fishbed D -- be manufactured in India. Y. B. Chavan, the Indian Minister of Defense, indicated on his return from Moscow in September 1964 that an agreement had been reached with Soviet officials for the manufacture of this type of aircraft. Soviet delegates visiting India in February 1965 are reported to have stated, however, that the USSR was considering only the less sophisticated model. There is no evidence that the USSR has begun to deliver any tools or machinery for the MIG plants.

#### 1. Background

Before the visit of the Indian Defense Minister to Moscow in September 1964, estimated costs for the construction and installation of the MIG-21 plants were reported to be as high as \$315 million, including Soviet aid of about \$125 million. 1/ During Chavan's visit a general military aid agreement valued at \$147 million was initialed, of which about \$86 million was for the MIG plants. India still was not completely satisfied with

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the cost estimate of the MIG complex. According to this preliminary agreement the total cost of construction and installation would be between \$156 million and \$168 million. The airframe factory at Nasik was scheduled to cost \$37.8 million and the engine factory at Koraput, \$73.5 million. Estimates of the cost of the electronics plant at Hyderabad run from \$45 million to \$57 million. 2/ The Soviet credit for the MIG complex will be repayable over a 7-year period, probably beginning when the first delivery is made. The annual interest charge is to be 2 percent.

A Soviet credit for 38 MIG-21 aircraft ordered during Chavan's visit amounts to about \$31 million and is in addition to the credit for machinery and tools to be installed at the plants. Aircraft ammunition and spare parts in the amount of about \$20 million also are scheduled for delivery as military aid during the period 1965-68. 3/

There has been recent criticism of the slow pace of the whole Soviet MIG program. Early this year, however, in reply to a suggestion that the USSR appeared to be procrastinating on its assistance for the MIG project, Mr. A. M. Thomas, Indian Minister of Defense Production, announced that \$6.2 million had already been authorized for the first stage of the Koraput plant. Although the USSR is not known to have made any deliveries under this authorization, India has presented the USSR with a shopping list of tools, machinery, jigs, and aircraft components -- all of which are needed to produce the MIG's. 4/ In addition, preliminary construction work (design and site preparation) has begun on the Nasik and Koraput plants.

#### 2. Schedule of Construction

An Indian delegation that left for Moscow on 25 April 1965 probably will sign detailed agreements for the development of the MIG complex. 5/In earlier plans the construction and installation had been divided into four stages; these have now been consolidated into three. During the first stage the plants will be under construction. The import of 38 MIG-21 aircraft in a partly assembled state for final assembly by Soviet technicians at Nasik as a demonstration of assembly techniques to Indian trainees is also apparently part of the first stage.

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During the second stage (scheduled to run from 1966 to the latter part of 1969) the Nasik airframe and the Koraput engine factories are to begin assembling MIG aircraft from imported components. A monthly assembly of six MIG's is planned. During this stage, Indian technicians under Soviet guidance are to assume primary responsibility for the assembly. During this stage the Hyderabad factory will not only assemble but also begin the manufacture of some electronics equipment for the aircraft.

During the third and final stage, India plans to begin production of MIG's by manufacturing all the basic components from raw materials. 7/Indian factories probably will not be able to produce all of the MIG parts by 1970, and it is estimated that production will depend indefinitely on imports of some MIG components.

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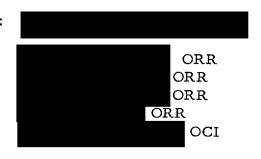
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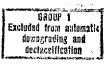
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